

## CLAIMS LISTING (AMENDMENT)

1. (Currently Amended) A method of interactive television wherein a video signal is generated based on real time user perception of video images comprising the steps of:

- forming a video signal of an entire frame of a video display image, and/or forming ~~generating~~ a video image or video signals of sectors of said video image with substantially equal quality levels, or a video image with different quality levels, in a video signal formation component;
- converting the video signals at least one time in ~~[[a]]~~ at least one video signal conversion component into a series of video signals ~~of the sectors~~ of the video image sectors and/or
- converting the level of quality of the video image sectors, and/or
- changing ~~internal~~ boundaries of the video image,
- transmitting ~~all~~ said video signals via data channels, at least, to one said conversion component and to at least one ~~information~~ display component,
- forming a video image on a ~~screen~~ of the ~~information~~ display component, said video image being perceived, at least, by one user,
- determining ~~resolution~~ eye characteristics by employing at least one sensor in operative communication with one eye of the user, said characteristics are defined relatively ~~with respect~~ to the video image formed by the ~~information~~ display component and perceived at an eye ~~resolution~~ by said one eye of said user, and by employing data from said sensor to dynamically establish ~~determine~~ signal coding characteristics, ~~based on said data from said sensor as to said eye resolution of at least said one eye of the user,~~
- transmitting said signals having ~~said signal~~ said coding characteristics to at least one computing component;
- generating ~~[[an]]~~ interrogation signals with said computing component, taking into account the eye resolution, communicated in the coding characteristics, said interrogation signals include a first category containing information on the boundaries of at least ~~[[in]]~~ one sector of the video image and/or a second category containing information on the quality levels of at least ~~[[in]]~~ one sector of the video image ~~of~~

~~the eye resolution of at least said one eye, of said at least for one user and/or for one group of users; based on the eye resolution ascertained from a group of users' eyes~~

- transmitting said interrogation signals to at least components of the [[two]] following types: video signal said formation component [[s]], said conversion component, and said display component, wherein communicating with a video signal conversion components and information display components, in which the interrogation signals are [[is]] taken into account with a respective concurrent adjustment in
  - forming of said video signals,
  - converting of said video signals, and
  - forming of said video image.

2.(Currently Amended) The method of claim 1, wherein according to which the computing component generates said [[an]] interrogation signals for a group of users, said group of users capable of containing a number of sub-groups, further comprising: which differs by the fact, that is a summarizing said interrogation signals for the users of said group, and/or said sub-groups of users. taking part of the above group.

3. (Currently Amended) ~~The method of claim 2, which differs by the fact, that summarizing interrogation signals coding external boundaries of video image sectors of an similar quality level for each level of video image quality coded in a series of interrogation signals for a group of users; in this connection, for each interrogation signal the respective external boundary of the video image sector of each quality level comprises external boundaries of all video image sectors with indicated quality level.~~

The method of claim 2, wherein said summarizing of interrogation signals of the first category further comprises: coding of external boundaries of video image sectors of an equal quality level for said users or said group of users; in this connection, for each interrogation signal the respective

external boundary of the video image sector of each quality level comprises external boundaries of all video image sectors with said each quality level.

4. (Currently Amended) ~~The method of claim 2, which differs by the fact, that summarizing interrogation signals for the indicated users' group coding the quality level of video image for each sector of video image coded in a series of interrogation signals for a group of users; in this connection, the quality level of each sector of interrogation signal video image for a group of users is taken as having the highest quality level for the corresponding sector of video image of each interrogation signal of users or a group of users forming a part of the given group.~~

The method of claim 2, wherein said summarizing of interrogation signals of the second category further comprises: coding of quality levels of a video image sector for said users or said group of users; in this connection, the quality level of each sector of the video image for said user or said group of users is coded as the highest quality level for the corresponding sector of the video image for each said user or each said group of users.

5. (Currently Amended) ~~The method of claim 1, or claim 2, or claim 3 or claim 4, wherein which differs by the fact, that said forming series of video signals of the entire video image of is provided for said different quality levels, and further comprises: high and low quality level of video image in the video signal formation component~~

- transmitting said video signals via data channels, at least, to one said conversion component,

- subjected to said first category interrogation signals, changing the boundaries of each sector of the video image in the video signal conversion component except for the sector of video image of the highest quality level, said boundaries including internal and external boundaries, such that the internal boundaries of all the above sectors, except the highest quality level sector, correspond to

the external boundaries of the video signal area with ~~[[a]]~~ the next higher quality level. ~~of video image with respect to the sector with variable boundaries.~~

6. (Currently Amended) The method of claim 5, ~~wherein: which differs by the fact, that~~ said converting a video signal of the entire video image is provided into a series of video signals of the entire video image with different quality levels. ~~of the video image, with the lower quality level of the video image of the initial video signal.~~

7. (Currently Amended) The method of claim 5, ~~which differs by the fact, that~~ wherein: the first quality level corresponds to a basic level; said transmitting the video signal is provided for ~~[[of]]~~ the ~~lowest quality~~ basic level of the entire video image via ~~[[the]]~~ data channels of a conventional video broadcasting system data transmission component to every said ~~of information~~ display component directly, or via the ~~of video signal~~ conversion component, associated with the ~~relevant information~~ display component; and subjected to said interrogation signals containing at least information on the boundaries of a sector with the lowest quality level, changing the internal boundaries of each sector of the video image in the conversion component.

8. (Currently Amended) The method of claim 5, ~~which differs by the fact, that~~ wherein said forming the video signal of the entire video image or of said sectors of the video image of a predetermined low quality level in the ~~video signal~~ formation component further comprises ~~in this connection~~ identifying ~~[[the]]~~ a value of a ~~[[the]]~~ pixel of the video image of said low quality level as the mean value of ~~video signal~~ pixels values of a predetermined high quality level of the video image, wherein said pixels values forming a part of the video image sector, restricted with the boundaries of ~~the above~~ said pixel of the predetermined low quality level.

9. (Currently Amended) The method of claims 5, ~~which differs by the fact that converting the video signal into the low quality video signal in the of video signal conversion component, in this connection, determining the pixel value of video signal of low quality video image, as the value of one of pixels of the video signal of high quality level of video image, formed a part of video image section restricted with boundaries of the above pixel.~~

wherein said forming the video signal of the entire video image or of said sectors of the video image of a predetermined low quality level in the formation component further comprises: identifying a value of a pixel of the video image of said low quality level as the value of one pixel of a predetermined high quality level of the video image, wherein pixels of said video image forming a part of the video image sector, restricted with the boundaries of said pixel of the predetermined low quality level.

10. (Currently Amended) The method of claim ~~[[5]]~~ 7, ~~which differs by the fact, that~~ wherein said quality levels include a number of quality levels starting from a lowest first quality level, a second quality level corresponds to a first extended quality level, a third quality level corresponds to a second extended quality level, and so on;

said forming a video signal of the first extended quality level in the of video signal formation component or in the of video signal conversion component respectively by the further comprises subtraction from the video signal of the first second quality level video signal of the video signal of the first basic quality level video signal; whereas said forming the video signal of the second and higher numbers the further extended quality levels are obtained by ~~[[the]]~~ subtraction from the video signal of the respective relevant high quality level video signal of the video signal of a video signal with the next quality level; ~~reduced with respect to it respectively~~

- subjected to said interrogation signals containing at least information on the boundaries of

sectors of the video image of extended quality levels, at least one time changing the boundaries of the sectors in at least one conversion component;

in this connection, the video signals of the second and higher numbers quality levels are converted  
~~lowest level of video signal quality is the basic level of video signal quality~~ in the conversion  
~~component of video signals connected with the information display component for every video~~  
~~signal, said converting video signals further comprises:~~ summarizing video signals of the basic  
quality level and of all of the extended quality levels.

~~information of the relevant video signal and video information of all video signals with quality~~  
~~level lower than the stated quality level, except for an extended video signal corresponding to the~~  
~~highest quality level of video image within the limits between the external boundary of the above~~  
~~video signal and the external boundary of the video signal with high quality level with respect to~~  
~~the stated video signal; forming the video signal with a higher quality level by summing within~~  
~~the limits of the boundary of the assigned sector of video information of video signals of all~~  
~~quality levels.~~

11. (Currently Amended) The method of claim 10, ~~which differs by the fact, that~~ wherein said  
users consist of two types of users: registered users and non-registered users; said transmitting  
~~forming the video signal with the basic quality level~~ signal in the of video signal formation  
~~component and is converted in the of conversion component into the standard video signal and is~~  
~~provided~~ transmitted to the information display component facilities of the registered and non-  
registered users. and/or a non-restricted group of users provided with standard information  
~~display facilities.~~

12. (Canceled)

13. (Canceled)

14. (Currently Amended)

~~The method any of claims 1, which differs by the fact, that scanning the screen with an electronic ray in the data display component using the CRT, transmitting video signals coding boundaries of the sector of extended video image to the electron gun to the component of sector output control at the entry of the electronic ray into the sector area with the other quality level, to the control component of the image sector output with control signal delivery to the change of the size of the luminous spot on the CRT screen to the size corresponding to the size of a pixel of video image of video image sector.~~

The method of claim 1, wherein said display component is represented by a conventional CRT including: a screen, a gun-cathode, an electronic beam deflector, a size screen dot unit for dynamic control of the dot on the screen; said method further comprises:

- successive transferring video signals of said sectors with different quality levels to the gun-cathode;

- synchronous transferring a first group of said interrogation signals for said sectors each, wherein said interrogation signals of the first group carry encoding information on the boundaries of said each sector, said transferring the interrogation signals of the first group is provided to said electronic beam deflector; and

- synchronous transferring a second group of said interrogation signals for said sectors each, wherein said interrogation signals of the second group carry encoding information on the quality levels of said sectors, and said transferring the interrogation signals of the second group is provided to said size screen dot unit.

15. (Currently Amended) ~~The method of claim 6, which differs by the fact, that recording converted video signals of low or basic quality level previously on video signal medium, displaying the~~

~~video signal of low or basic quality level synchronously with produced video signals of high or extended quality level accordingly.~~

wherein said different quality levels include a number of quality levels starting from a lowest quality level; said method further comprises: a preliminary step of recording video signals of an entire frame of a video image of the lowest quality level, transmitting said recorded video signals except for the highest quality level video signals, and said recorded video signals of the lowest quality level are read up during the step of transmitting said video signals, thereby reducing the information volume to be transmitted.

16. (Currently Amended) The method of claim 6 ~~which differs by the fact, that transmitting the video signal of the lowest quality level of video image via the data channels of data transmission component to every information display component directly or via the video signal conversion component, associated with the relevant information display component.~~

wherein the first quality level corresponds to a basic level, said transmitting the video signals of the lowest quality level via said data channels of the data transmission component is provided to every said display component directly or via the conversion component associated with said display component, associated with the display component;  
subjected to said interrogation signals containing at least information on the boundaries of a sector of a video image with the lowest quality level, changing the internal boundaries of each sector of the video image in the conversion component.

17. (Currently Amended) The method of claim 6, ~~which differs by the fact, that forming the video signal of the entire video image or sectors of the video image of low quality level in the video~~

signal

~~formation component in this connection, identifying the value of the pixel of the video image of low quality level as the mean value of video signal pixels of high quality level of the video image, forming a part of the video image sector, restricted with boundaries of the above pixel.~~

wherein said forming the video signal of the entire video image or of said sectors of the video image of a predetermined low quality level in the formation component further comprises: identifying a value of a pixel of the video image of said low quality level as the mean value of pixels values of a predetermined high quality level of the video image, wherein said pixels values forming a part of the video image sector, restricted with the boundaries of said pixel of the predetermined low quality level.

18. (Currently Amended) The method of claim 7,

~~which differs by the fact, that forming the video signal of the entire video image or sectors of the video image of low quality level in the video signal formation component, in this connection, identifying the value of the pixel of the video image of low quality level as the mean value of video signal pixels of high quality level of the video image, forming a part of the video image sector, restricted with boundaries of the above pixel.~~

wherein said forming the video signal of the entire video image or the video signals of said sectors of the video image of a predetermined low quality level in the formation component further comprises: identifying a value of a pixel of the video image of said low quality level as the mean value of pixels values of a predetermined high quality level of the video image, wherein said pixels values forming a part of the video image sector, restricted with the boundaries of said pixel of the predetermined low quality level.

19. (Currently Amended) The method of claim 10, which differs by the fact, that determining the pixel of the video signal of the extended quality level of video image in the video signal formation component or in the video signal conversion component by subtraction of high quality level pixel of video image; forming video signal pixel with basic quality level in the [[of]] video signal conversion component or the information display component and video signal pixel of high quality level of the video image by way of summing the video signal pixel of the extended quality level and the video signal pixel of the quality basic level.

20. (Canceled)

21. (Currently Amended) The method of claim 10 ~~which differs by the fact, that recording converted video signals of low or basic quality level previously on video signal medium, displaying the video signal of low or basic quality level synchronously with produced video signals of high or extended quality level accordingly.~~

wherein said method further comprises: a preliminary step of recording video signals of said basic quality level, transmitting said video signals of the extended quality level to the display components, and reading up said recorded video signals of the basic quality level during the step of transmitting said video signals, thereby reducing the information volume to be transmitted.

## CLAIMS OBJECTIONS

According to the Office Action, "Claims 1, 7, 9, 10-12, 16, and 19 are objected to because of..." certain informalities. The claims are now majorly rewritten (except Claim 12 that is canceled) and, as Applicants believe, do not contain the mentioned informalities. However, if the Examiner finds additional idiomatic informalities, he is hereby authorized and respectfully requested to amend such informalities as he believes appropriate.

## CLAIMS REJECTIONS – 35 USC 112

According to the Office Action, “Claims 7-13, 15, and 16-21 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicant regards as the invention.”

To comply with the Office Action, Claims 12, 13, and 20 are canceled, Claims 7-11, 14-19, and 21 are now re-written to more precisely point out the subject matter being claimed therein. Applicants believe that the amended Claims 7-11, 14-19, and 21 are now definite and comply with 35 USC 112.

## CLAIM REJECTION – 35 USC 102

According to the Office Action, “Claims 1-6 are rejected under 102 U.S.C. 102(e) as being anticipated by Keeney et al. (US007027655B2).”

The 102 rejections have been noted. Applicants disagree with the rejections; their arguments are placed in the Remarks section below.

## CLAIM REJECTIONS – 35 USC 103

According to the Office Action, “Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keeney et al. (US007027655B2) in view of Griepentrog (US005894327).”

The 103 rejection has been noted. Applicants disagree with the rejection; their arguments are placed in the Remarks section below.